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DOCUMENT-IDENTIFIER: US 5206929 A

TITLE: Offline editing system

DATE-ISSUED: April 27, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE
Langford; Ted E.	Fremont	CA	N/A
Wheeler; David	Palo Alto	CA	N/A

US-CL-CURRENT: 345/723, 345/726, 345/810, 345/835, 348/552, 386/55, 725/86

ABSTRACT:

A post production offline editing system including a processor programmed to display an initial menu prompting a user to select a multiple camera editing mode (in which the user selects edits while simultaneously viewing scenes from two or more sources), a single camera editing mode, a display edit information mode, or a scene take management mode. Preferably in the single camera edit mode, the user may select a splice (or transition) between two edits by selecting a sequence of items from sequentially displayed transition menus. For example, a first pulldown transition menu prompts the user to select a general transition type such as a "dissolve" or "wipe," and a second pulldown transition menu then prompts the user to select one of several versions of the selected general transition type. In the multiple camera editing mode, the user may select either a set-up mode or an execute mode. In the edit list management mode, the user may select a variety of modes, including a rehearse mode, a list management mode, and a reformat mode. In the display edit information mode, the invention preferably displays a partial edit list and a highlight icon, respectively, in first and second areas of a monitor screen. When a user selects a region of the highlight icon corresponding to a selected edit, the system highlights the selected edit from the displayed list and displays information about the selected edit in a third area of the monitor screen.

25 Claims, 17 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 16

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Brief Summary Text - BSTX (17):

The invention preferably also includes a means for storing unedited video takes in a random access memory (preferably a set of laser video disk players), displaying selected takes (or individual frames from selected takes), and generating an edit list which defines an edited video program. Also, the invention preferably includes a computer programmed with software providing an integrated software environment which enables a user conveniently to log unedited takes into the system, and to generate an edit list suitable for use in a subsequent online editing operation. The system software preferably

provides global access to a variety of video post production environments (i.e., computer menus prompting the user to perform a variety of operations, such as logging of unedited takes onto the system, edit list modification, and playback of an edited show) at any point during an offline editing operation.

Detailed Description Text - DETX (24):

The edit decision software includes the "first cut" module, "sync-roll" module, "review modify" module, and "edit list manager" module shown in FIG. 8.

Detailed Description Text - DETX (30):

The user interface software provides an integrated software environment in which the user has global access to a variety of video post production environments, including the scene tracker, first cut, sync-roll, review modify, and edit list manager modules described above. Specifically, the user interface displays user-selectable icons and mnemonic text (representing software modules) enabling the user to access a desired software module (in which a full-screen or pull down menu may be displayed) at any stage during an offline editing operation. The icons (or windows including text) may be selected by the user using a mouse.



US006016380A

United States Patent [19][11] **Patent Number:** **6,016,380****Norton**[45] **Date of Patent:** **Jan. 18, 2000****[54] TEMPLATE-BASED EDIT DECISION LIST MANAGEMENT SYSTEM**[75] **Inventor:** **Mark J. Norton, Bedford, Mass.**[73] **Assignee:** **Avid Technology, Inc., Tewksbury, Mass.**[21] **Appl. No.:** **07/950,787**[22] **Filed:** **Sep. 24, 1992**[51] **Int. Cl.⁷** **H04N 5/76**[52] **U.S. Cl.** **386/52; 386/55**[58] **Field of Search** 358/335, 311,
358/342; 348/552, 578, 458; 360/13, 14.1;
395/600, 162, 154, 117; 250/566; 386/46,
55, 65, 52; H04N 5/76**[56] References Cited****U.S. PATENT DOCUMENTS**

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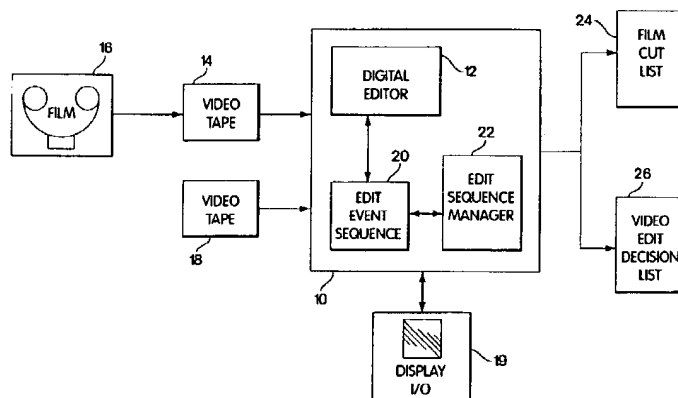
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(List continued on next page.)

Primary Examiner—Huy T. Nguyen*Attorney, Agent, or Firm*—Wolf, Greenfield & Sacks, P.C.**[57] ABSTRACT**

A computer-based system for generating a video edit decision list, which tabulates video editing events and video synchronization points corresponding to the video editing events. The invention accepts a sequence of video and audio manipulations produced by a digital video editing system, each manipulation effecting a particular video editing event, and generates, based on the manipulation sequence, a list of video editing events and corresponding synchronization points. The invention then conforms the list to a user-specified format selected from a plurality of video edit decision list format templates, provided by the system, which each specify a model for defining video editing events distinctly in that format, and then the video edit decision list is output in the user-specified format. The invention is adapted to also convert a video edit decision list from a first format to a second, user-specified format; and further is adapted to generate a sequence of video and audio manipulations to be used by a digital video editor for editing a video, based on a video edit decision list.

38 Claims, 4 Drawing Sheets



US005649171A

United States Patent [19]

Craven et al.

[11] Patent Number: **5,649,171**[45] Date of Patent: **Jul. 15, 1997**[54] **ON-LINE VIDEO EDITING SYSTEM**

[75] Inventors: **Ian Craven**, Belmont; **Bruce Logan Hill**; **Lance E. Kelson**, both of Redwood City; **Robert Rose**, San Jose; **Stephen J. Rentmeesters**, Dublin, all of Calif.

[73] Assignee: **Accom, Inc.**, Menlo Park, Calif.

[21] Appl. No.: **531,095**

[22] Filed: **Sep. 20, 1995**

Related U.S. Application Data

[63] Continuation of Ser. No. 781,481, Oct. 21, 1991, abandoned, which is a continuation-in-part of Ser. No. 684,700, Apr. 12, 1991, abandoned.

[51] Int. Cl.⁶ **G06F 13/00**

[52] U.S. Cl. **395/500; 395/806; 364/DIG. 1; 364/DIG. 2**

[58] Field of Search **395/154, 500, 395/700, 275; 348/722**

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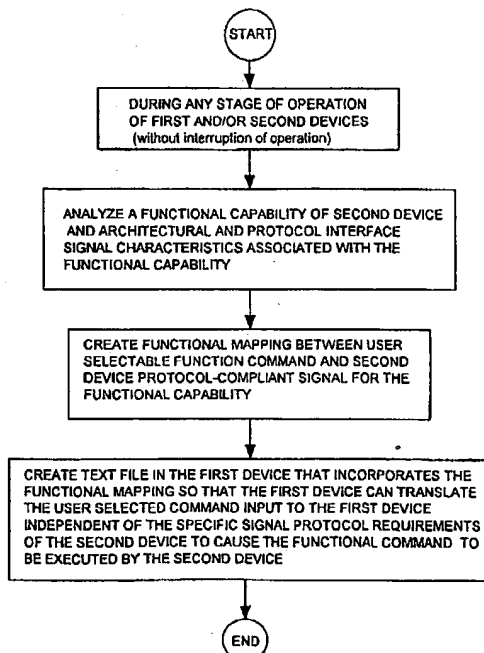
Primary Examiner—Parshotam S. Lall

Assistant Examiner—Zarni Maung

Attorney, Agent, or Firm—Flehr Hohbach Test Albritton & Herbert LLP

[57] **ABSTRACT**

An on-line video editing system includes interface software containing in preferably text file format protocol information and a mapping of the architectural functions of peripheral devices that a user can control via the editor. This software allows the present invention to readily control all functions of which a peripheral device is capable, and to issue commands in a synchronized, distributed manner in the proper protocol for the peripheral device. The system permits simultaneous control of up to 48 serial devices (all of which may be switchers) as well as 8 GPI controlled devices, and permits multiple users or multiple simultaneous edits. Further, the interface software enables a user to input (preferably in text file form) a desired edit effect, whereupon the system will make design decisions and construct the desired effect using such devices as are available to the system. Applicants' hardware and EDL software permit the system to maintain a virtual hierarchical historical record of unlimited size containing every step of every edit made with the system, allowing a user to later recreate or partially or completely undue visual effects, including layered effects. In addition to conventional timecode data, the system EDL can provide user output in graphic or visual form, and will allow a user to actually see a still frame from a desired video edit point. The system includes a motorized control that automatically reflects the state of a video source under control while providing absolute or relative positional control.

7 Claims, 34 Drawing Sheets



US006381608B1

(12) **United States Patent**
Savoie(10) **Patent No.:** US 6,381,608 B1(45) **Date of Patent:** Apr. 30, 2002(54) **PROCESSING EDIT DECISION LIST DATA**(75) **Inventor:** Charles Savoie, Quebec (CA)(73) **Assignee:** Discreet Logic Inc., Quebec (CA)(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.(21) **Appl. No.:** 09/123,945(22) **Filed:** Jul. 28, 1998(30) **Foreign Application Priority Data**

Jul. 30, 1997 (GB) 9716033

(51) **Int. Cl.⁷** G06F 17/00(52) **U.S. Cl.** 707/102; 345/726; 345/732(58) **Field of Search** 707/102, 101,
707/104, 104.1; 710/30; 711/100; 386/52,
55; 345/723, 724, 726, 730, 732; 348/722(56) **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Thomas Black*Assistant Examiner*—Uyen Le(74) *Attorney, Agent, or Firm*—Gates & Cooper LLP(57) **ABSTRACT**

A processing system for processing data representing edit decision lists having edit decisions with edit data, representing the type of edit to take place, and frame range data, representing the frames over which the edit is to take place. An input device applies input data to the processing system in response to user manipulations specifying changes in the edit data. The processing device is configured to identify an associated function of the identified edit data, calculate modifications to the range data in response to the identified function and write the modified range data to storage.

18 Claims, 12 Drawing Sheets